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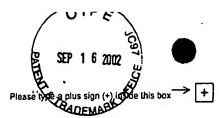
Complete if Known Application Number 10/086,594 February 27, 2002 Filing Date Ejaz UI Haq First Named Inventor 2651 Group Art Unit

Sheet

44176.00036 Technology Center 2500 (use as many sheets as necessary) Examiner Name of Attorney Docket Number

| | | U.S. Patent Document U.S. Petent Document Name of Patentee or Applicant | | Date of Publication of | Pages, Columns, Lines, Where Releva |
|---------------------|--------------|---|----------------------------|----------------------------|--|
| Examiner Initials * | Cite No.¹ | Number Kind Cod | of Cited Document | Cited Document MM-DD-YYYY | Passages or Relevant Figures Appear |
| - | | (if known) | Charles E. Lenz | 06-05-1973 | |
| 20 | | 3,737,788 | | | |
| 23 | | 4,247,817 | Lawrence D. Heller | 01-27-1981 | |
| Men ! | | 4,663,769 | Jerome V. Krinock | 05-05-1987 | |
| 70 | | 4,675,558 | Michael J. Serrone, et al. | 06-23-1987 | |
| 200 | | 4,745,365 | Michael Ugenti | 05-17-1988 | |
| 320 | | 4,782,481 | Steven G. Eaton | 11-01-1988 | |
| THE SERVICE SERVICE | | 4,792,845 | John L. Judge | 12-20-1988 | |
| 20 | | 4,942,365 | James R. Satterwhite | 07-17-1990 | |
| 30 | | 5,023,488 | William F. Gunning | 06-11-1991 | |
| 390 | | 5,105,107 | David J. Wilcox | 04-14-1992 | |
| 90 | | 5,142,556 | Hideaki Ito | 08-25-1992 | |
| 30 | | 5,243,703 | Michael Farmwald, et al. | 09-07-1993 | |
| OF D | | 5,254,883 | Mark A. Horowitz, et al. | 10-19-1993 | <u> </u> |
| 030 | | 5,263,049 | John M. Winch | 11-16-1993 | |
| 300 | | 5,319,755 | Michael Farmwald, et al. | 06-07-1994 | |
| 23 | | 5,327,121 | Thomas L. Anties, II | 07-05-1994 | |
| 3 | | 5,355,391 | Mark A. Horowitz, et al. | 10-11-1994 | |
| 33 | | 5,363,332 | Fumio Murabayashi, et al. | 11-08-1994 | |
| 20 | | 5,378,946 | Gerd Reime | 01-03-1995 | |
| 93 | | 5,408,129 | Michael Farmwald, et al. | 04-18-1995 | |
| 10 | | 5,432,823 | James A. Gasbarro, et al. | 07-11-1995 | |
| 12 | | 5,463,211 | Thomas C. Arends, et al. | 10-31-1995 | |
| 2 | | 5,473,575 | Michael Farmwald, et al. | 12-05-1995 | |
| 8 | | 5,473,635 | Michel Chevroulet | 12-05-1995 | |
| 3 | | 5,473,757 | Daniel W. Sexton | 12-05-1995 | |
| 3 | | 5,498,985 | Jonathan J. Parle, et al. | 03-12-1996 | · |
| 22 | | 5,512,853 | Norio Ueno, et al. | 04-30-1996 | |
| 5 | • | 5,513,327 | Michael Farmwald, et al. | 04-30-1996 | |
| 2 | | 5,513,377 | Robert S. Capowski, et al. | 04-30-1996 | |
| 30 | | 5,550,496 | Alan R. Desroches | 08-27-1996 | |
| 43 | | 5,579,492 | James G. Gay | 11-26-1996 | |
| 3 | | 5,590,369 | Dana J. Burgess, et al. | 12-31-1996 | |
| 30 | | 5,606,717 | Michael Farmwald, et al. | 02-25-1997 | |
| 12 h | | 5,646,642 | Toshikazu Maekawa, et al. | 07-08-1997 | |
| 400 | | 5,706,484 | Thomas J. Mozdzen, et al. | 01-06-1998 | |
| 100 | _ | 5,706,485 | Javed Barkatullah, et al. | 01-06-1998 | |
| 发十 | | . 5,715,405 | Mark T. McClear, et al. | 02-03-1998 | |
| 000 | - | 5,774,354 | Shun Ohta | 06-30-1998 | |
| % | | 5,796,962 | Karl M. Fant, et al. | 08-18-1998 | |
| 82 | | 5,812,875 | Michael K. Eneboe | 09-22-1998 | |
| 12 | | 5,815,734 | Sherman Lee, et al. | 09-29-1998 | |
| 1 | | 5,878,234 | Marek Dutkiewicz, et al. | 03-02-1999 | |
| 100 | | 5,925,118 | Juan G. Revilla, et al. | 07-20-1999 | |

| Examiner Signature | 5.0 | houre | Date Considered | 3/3/ | 06 |
|-----------------------|-----|---------------------------------|--------------------|------|----|
| | | re e presidente de Albara de I. | | TI | |



PTO/SB/08A (08-00)

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U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

ork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

| Substit | ute for form 1449A/PT | 0 | | | Complete if Known | | 1 |
|------------------------|-----------------------|-----------|------------|------------------------|-------------------|-----------------------|----------|
| INFORMATION DISCLOSURE | | | | Application Number | 10/086,594 | Pros | |
| | | | | Filing Date | February 27, 2002 | RECE | VED |
| STA | TEMENT B | Y AP | PLICANT | First Named Inventor | Ejaz Ul Haq . | PFE 1 | _ |
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| | (use as many she | eets as r | necessary) | Examiner Name | Unknown | Technology | . " |
| Sheet | 2 | of | 3 | Attorney Docket Number | 44176.00036 | Technology Co | nter 260 |

| SHEEL | 1 - | 0. | | | , alonio, a cont | | |
|---------------------|-------------|-----------|---|---------------------------|-------------------------------|--|--------------------------|
| | | | | U.S. PAT | ENT DOCUM | MENTS | |
| Examiner Initials * | Cite No. | I Number | ocument of Code ² known) | Name of Pater of Cited | ntee or Applicant Document | Date of Publication Cited Docume MM-DD-YYY | ent Passages or Relevant |
| 33 | | 5,928,343 | T . | Michael Fa | rmwald, et al. | 07-27-199 | 9 |
| 26 | | 5,963,070 | | Darren R | l. Faulkner | 10-05-1999 | 9 |
| E. | | 6,122,331 | | Jerome | 2 Dumas | 09-19-200 | 0 |
| 0/2 | | 6,151,648 | | Ejaz | Ul Haq | 11-21-200 | 0 |
| 32 | | 6,160,423 | | Ejaz | Ui Haq | 12-12-200 | 0 |
| 92 | | 6,430,606 | | | Ul Haq | 08-06-200 | 2 |
| | | | | | | | |
| | | | | | | | |
| | - | | | | | | |
| | | | | | | | |

| Examiner Initials* | | Foreign Patent Document | | Name of Patentee | Date of Publication of | Pages, Columns, Lines, Where Relevant | | |
|--------------------|--------------|-------------------------|---------------------|--------------------------------------|-----------------------------------|--|--|----|
| | Cite No.1 | Office ³ | Number ⁴ | Kind Code ⁵ (if known) | or Applicant of Cited Document | Cited Document MM-DD-YYYY | Passages or Relevant Figures Appear | Тв |
| | | | WO 92/17938 | В | Jon P. Wade, et al. | 10-15-1992 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | I | | |

| Examiner Signature | 7.1 | morierz | Date Considered | 31 | 3/06 | |
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Substitute for form 1449A/PTO

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PTO/SB/08A (08-00)

Approved for use through 10/31/2002, OMB 0851-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
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| or form 1449A/PTO | | Complete if Knowr | |
|----------------------------------|------------------------|-------------------|------------------------|
| J.R.F. | Application Number | 10/086,594 | |
| RMATION DISCLOSURE | Filing Date | February 27, 200 | DEOCHAD |
| EMENT BY APPLICANT 👸 | First Named Inventor | Ejaz Ul Haq | RECEIVED |
| SEP 1 6 2002 | Group Art Unit | 2651 | SEP 1 8 2002 |
| use as many sheets as necessary) | Examiner Name | Unknown | SEP + 0 CVUZ |
| 3 of \$3 | Attorney Docket Number | 44176.00036 | Technology Center 2600 |

| | | OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS | T . |
|------------------------|--------------|---|-----|
| Examiner Initials * | Cite No.1 | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T 2 |
| B | | *IEEE Standard for Low-Voltage Differential Signals (LVDS) for Scalable Coherent Interface (SCI)*, IEEE Std. 1596.3-1996, March 21, 1996, XP-002106653, Introduction, Contents and pages 1-30. | |
| B | | 4M x 18 SLDRAM Preliminary Data Sheet 9/97 from SLDRAM Consortium. | |
| 3 | | 1M x 16Bit x 4 BANKS DDR SDRAM (Rev. 0.5 June 1997) from Samsung. | |
| B | | Kim, et al. *A 640MB/s Bi-Directional Data Strobed, Double-Data-Rate SDRAM with a 40mW DLL Circuit for a 256MB Memory System*, ISSCC98 Digest, pp. 158-159, February 6, 1998. | |
| B | | Morooka, et al. "Source Synchronization and Timing Vernier Techniques for 1.2GB/s SLDRAM Interface", ISSCC98 Digest, pp. 160-161, February 6, 1998. | |
| 3 | | Lau, et al. "A 2.6 GB/s Multi-Purpose Chip-to-Chip Interface", ISSCC98 Digest, pp. 162-163, February 6, 1998. | |
| 3 | | LVDS I/O (Scalable Coherent Interface Documents) IEEE P1596.3 working-group activity for high-speed signal link interface, 3 pages. | |
| 3 | | Hyper-LVDS VO Cells (LSI Logic Product Briefs), 2 pages. | |
| B | | Crisp, Richard, *Direct Rambus Technology: The New Main Memory Standard*, November/December 1997 issue of IEEE Micro. | |
| E A | | Direct RDRAM 64/72-Mbit (256Kx16/18x16d), "Advance Information" of 64M/72M Direct RDRAM Data Sheet, dated October 2, 1997. | |
| 18 | | Tamura, et al. "PRD-Based Global-Mean-Time Signaling for High-Speed Chip-to-Chip Communications", ISSCC98 Digest, pp. 164-165 & pp. 430-432; February 6, 1998. | |
| 8 | | Griffin, et al. "A Process Independent 800MB/s DRAM Bytewide Interface Featuring Command Interleaving and Concurrent Mernory Operation", ISSCC98 Digest, pp. 156-157, February 6, 1998. | |
| B | · | RamLink, LVDS I/O (Scalable Coherent Interface Documents) IEEE P1596.4 working-group activity for high- speed signal link interface, 3 pages. | |
| 18 | | XILINX® Application Note: *Using the Virtex SelectIO*, XAPP 133 October 21, 1998 (Version 1.11), 12 pages. | |
| 3 | | Rambus®, *Rambus® Technology Overview, including Introduction and The Rambus Solution, Copyright February 1999, last modified: February 12, 1999, 5 pages. | |
| 3 | | HAQ, Ejaz, et al.; "Jazio Signal-Switching Technology – A Low-Cost Digital I/O for High-Speed Applications"; IEEE Micro; January-February 2001; pages 72-81. | |
| 3 | | "Jazio Enhancements To Achieve Very High Data Rates Per Pin For Parallel Interfaces"; Jazio High Speed Ditigal VO Signal Switching Technology; June 20, 2001; 14 pages. | |

| Examiner Signature | 5. Progerc | Date Considered | 3/3/06 |
|-----------------------|------------|--------------------|--------|

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

PTO/SB/08a (08-03)

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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number. Substitute for form 1449A/PTO Complete if Known

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Sheet

STATEMENT BY APPLICANT

(Use as many sheets as necessary) of

Application Number 10/086,594 Filing Date February 27, 2002 Ejaz UI Haq First Named Inventor Art Unit 2651 Examiner Name Unknown Attorney Docket Number 44176.00036

| | | | U.S. PATENT | OCUMENTS | |
|------------|-------------|--|------------------|--|--|
| Examiner | Cito | Document Number . | Publication Date | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant |
| Initials * | Cite No. | Number - Kind Code ² (if known) | MM-DD-YYYY | Ched butthern | Passages or Relevant Figures Appear |
| No. | | US-4,713,827 | 12-15-1987 | Lauffer et al. | |
| 472 | | US- 5,483,110 | 01-09-1996 | Koide et al. | |
| 00 | | US- | | | |
| | | US- | | | |
| | | US- | | | RECEIVE |
| | | US- | | | |
| | | US- | | | 4400-0-2-2004 |
| | | US- | | | MAR 0 3 2004 |
| | | US- | | | |
| | | US- | | | Technology Center 2 |
| | | US- | | | |
| | | U\$- | | | |
| | | US- | | | |

| | FOREIGN PATENT DOCUMENTS | | | | | | | | | |
|-----------------------|--------------------------|---|--------------------|--------------------------------|--|----|--|--|--|--|
| Evaminar | Cite | Foreign Patent Document | Publication | Name of Patentee or | Pages, Columns, Lines, Where Relevant | | | | | |
| Examiner Initials* | No.1 | Country Code ³ - Number ⁴ - Kind Code ⁵ (if known) | Date MM-DD-YYYY | Applicant of Cited Document | Passages or Relevant Figures Appear | T⁰ | | | | |
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